

FACTSHEET
CYPHO GUI FRAMEWORK

CYPHO graphical user interface framework

Description

CYPHO is a graphical widget library that offers windows, controls and graphical objects needed to display data on embedded devices. CYPHO enables the user to interact with various systems easily and quickly.



Features

- Event-based approach
- Independent of display resolution and colour depth
- Focus behaviour of controls is customisable
- Customisable look and feel (exchangeable during run-time)
- Multiple languages supported including right-to-left languages like Arabic and Hebrew
- Hardware independent

Technical information

Windows

- Arbitrary number of windows for each application
- May be overlapped, resized and moved
- Automatic clipping
- Exchangeable look for border, title and background (themes)
- Window priorities
- Layout support for window content (grid layout, float layout)
- No flickering by using synchronous updates
- Alpha blended windows

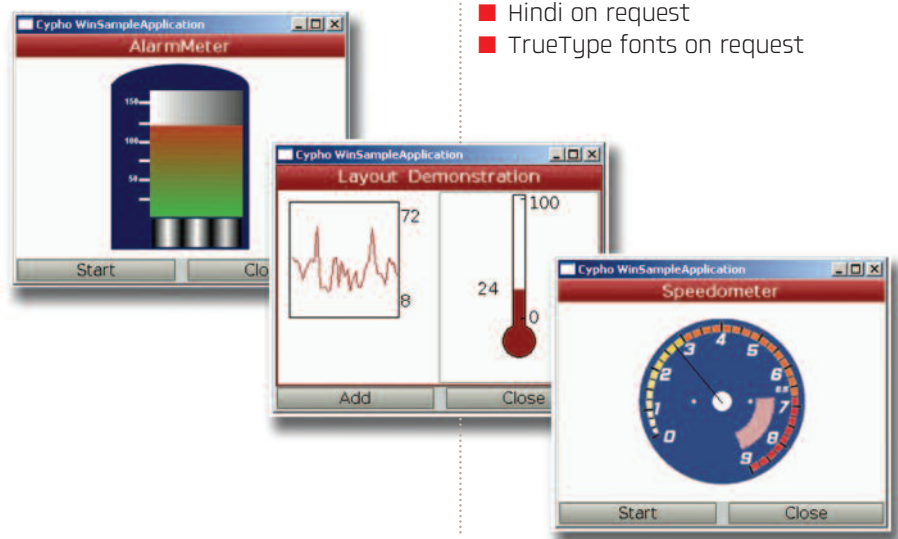
Controls

- Controls can be embedded and arranged inside windows
- User interaction via keyboard and/or touchpad is possible
- Exchangeable look during runtime
- Focus behaviour is customisable



Types of controls

- Editors (LineEditor, PasswordEditor, DateEditor, TimeEditor, IpAddressEditor, MultiLineEditor, MultiMediaEditor)
- Lists and Menus
 - Optional scrolling of clipped text
 - Any kind of image (including animations) can be used
 - Support for radio buttons, check boxes, and separators
 - Customisable scroll behaviour
 - Customisable look per instance possible
 - Support for (multiple) item selection



- TextLine and AnimatedTextLine
- ImageBox (animations, automatic resizing)
- Takes care of animations
- WallpaperBox (Tiling, Scaling, Centering)
- ProgressBar
- TabControl
- Combo Box
- Alert
- MessageBox

Language

- Left-to-right parsing (Western Languages, Greek, Chinese, Russian)
- Complex scripts with left-to-right parsing (Latin letters [Vietnamese], non-Latin letters [Thai])
- Languages with right-to-left parsing (Arabic, Hebrew, Farsi, Urdu)
- Bi-directional text (left-to-right texts and right-to-left texts can be displayed and edited within one document)
- Emoticons and Japanese EMOJIs are supported
- Active language can be switched at run-time
- Language tool for translation
- Resource compiler for fonts
- Hindi on request
- TrueType fonts on request

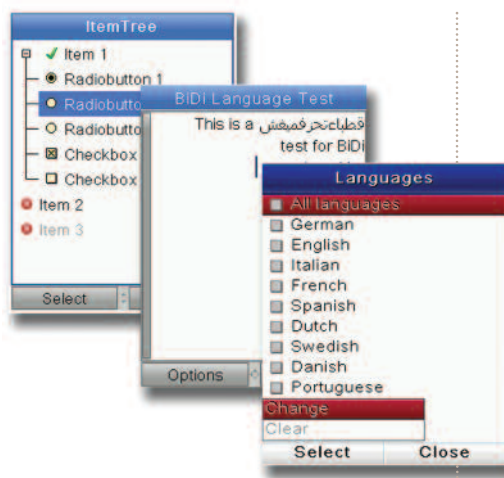
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Devices

- Use of device interfaces as abstractions for the display, keyboard and touch screen
- The implementations of the devices are adapted to the hardware to be used
- Default implementations for monochrome, greyscale, and 16/24/32-bits per pixel displays are available
- Use of hardware accelerated drawing operations supported
- Multiple display support
- Drawing functionality supports
 - Drawing of dots, lines, rectangles, ellipses, polygons, arcs
 - Bitblitting
 - Dotted line style
 - Alpha blending
 - Off-screen drawing into bitmaps

Images

- Support for decoding GIF, PNG, JPEG, and BMP images
- Various caching mechanisms
- Transformations and resizing
- Native image format
- Resource Compiler can transform any kind of image into the native format
- Native Image Format
 - Animations
 - Alpha blending
 - Compression
 - Indexed format (256 colours) or pixel format (up to 16 million colours)
 - Optimised for performance
- Resource Compiler for native image conversion
 - Takes any image format as input
 - Exports Cypho specific native image format



Extensions

- Macromedia flash
- Ikivo SVG (Scalable Vector Graphics)
- Tegic T9 (predictive input method)
- ZiCorp eZiText (predictive input method)

Field of Application

- Contollers in various industries (e.g. heating controllers, industry and home automation)
- Mobile devices (e.g. handhelds, mobile phones)

Customer Benefits

- Mature and stable system
- Applicable on various platforms
- Proven track record in telecommunication and industry



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